

AMENDMENTS TO THE CLAIMS

LISTING OF CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A method of liquid-phase oxidation reaction using a tungsten species, wherein that, in carrying out said method of liquid-phase oxidation reaction using a catalyst comprising a tungsten species as an essential component, wherein said catalyst is obtained by causing said tungsten species to be supported on a porous support and, further, separately causing a third element other than the component elements of said porous support and the tungsten element to be present in said catalyst as a component different from said tungsten species or the porous support; wherein said third element comprises at least one element selected from the group consisting of the elements of the groups 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 and 17 of the periodic table,

and wherein a reactant substrate is selected from the group consisting of cyclohexanone, cyclobutanone, unsaturated hydrocarbons having 2 to 15 carbon atoms, a compound having at least one ethylenic double bond and a group selected from -COOH, -CN, -COOR or -OR, wherein R being an alkyl, cycloalkyl, aryl or allylalkyl substituent; or an aryl, allylalkyl, halogen, nitro, sulfo, carbonyl, hydroxyl or ether group, an oxidizing, agent used is selected from molecular oxygen, hydrogen peroxide, cumene hydroperoxide, tert-butyl hydroperoxide, peracetic acid, oxygen-hydrogen mixed gases, dinitrogen monoxide, and iodosylbenzene, a reaction temperature is not lower than room temperature, but not higher than 250°C, and a reaction pressure is not lower than ordinary pressure but not higher than 2 X 10⁷ Pa, and wherein the reaction is selected from aldehyde formation from a primary alcohol having 2 to 15 carbon atoms, carboxylic acid formation from an aldehyde having 2 to 15 carbon atoms, and ketone formation from a secondary alcohol having 2 to 15 carbon atoms if the liquid-phase oxidation reaction is hydroxyl group oxidation.

2. (Canceled)

3. (Previously Presented) A method of liquid-phase oxidation reaction using a tungsten species according to Claim 1, wherein said catalyst is a catalyst calcined at a temperature of 300 to 700°C.
4. (Previously Presented) A method of liquid-phase oxidation reaction using a tungsten species according to Claim 1, wherein said third element comprises at least one element selected from the group consisting of Mg, Ca, La, Re, Fe, Zn, Al, In, Sn, Pb, Sb, Bi and F.
5. (Previously Presented) A method of liquid-phase oxidation reaction using a tungsten species according to Claim 1, wherein said porous support comprises alumina and/or tin oxide as an essential component(s) and said third element comprises at least one element selected from the group consisting of La, Zn, Al, Sn and Pb and wherein said method of liquid-phase oxidation reaction is a method of liquid-phase epoxidation reaction.
6. (Previously Presented) A method of liquid-phase oxidation reaction using a tungsten species according to Claim 1, wherein said method of liquid-phase oxidation reaction uses hydrogen peroxide as an oxidizing agent.
7. (Previously Presented) A method of liquid-phase oxidation reaction using a tungsten species according to Claim 1, wherein said method of liquid-phase oxidation reaction is carried out by oxidation reaction of compound having at least one ethylenic double bond.
8. (Previously Presented) A method of liquid-phase oxidation reaction using a tungsten species according to Claim 1, wherein said tungsten species content in the catalyst is not less than 1 part by weight but not more than 40 parts by weight per 100 parts by weight of a porous support.
9. (Currently Amended) A method of liquid-phase oxidation reaction using a tungsten species according to Claim 1, wherein said catalyst comprising a tungsten species as an essential

component is used for supporting tungstic acid and salts thereof, and salts of heteropolyoxometallate anions comprising tungsten atom, wherein the heteropolyoxometallate anions ~~comprising~~ having tungsten atom are represented by the formula (1):



wherein X represents a silicon atom or phosphorus atom; (n,m) are (12,40) when there is no deficiency, (11, 39) when there is one deficient structure site, (10, 36) when there are two deficient structure sites, or (9, 34) when there are three deficient structure sites, and q is a positive integer, the value of q being determined by the valence of the element X.

10. (Cancelled)

11. (Previously Presented) A method of preventing a tungsten species leaching, which is carried out by liquid-phase oxidation reaction using a tungsten species according to Claim 1.

12. (Original) A method of preventing a tungsten species leaching, which is carried out by liquid-phase oxidation reaction using a tungsten species according to Claim 3.

13. (Original) A method of preventing a tungsten species leaching, which is carried out by liquid-phase oxidation reaction using a tungsten species according to Claim 4.

14. (Original) A method of preventing a tungsten species leaching, which is carried out by liquid-phase oxidation reaction using a tungsten species according to Claim 5.

15. (Original) A method of preventing a tungsten species leaching according to Claim 11, wherein said tungsten species leaching is not more than 99 mole percent when a tungsten species leaching from the third element-free catalyst is taken as 100 mole percent.

16-20. (Canceled)

21. (New) The method of liquid phase oxidation reaction using a tungsten species according to

claim 1,

wherein the substrate is selected from the group consisting of cyclohexanone, cyclobutanone, straight chain alkenes having a terminal ethylenic double bond containing 2 to 15 carbon atoms, alkenes or branched alkenes having an ethylenic double bond in the molecule containing 2 to 15 carbon atoms, alicyclic olefinic hydrocarbons containing 2 to 15 carbon atoms, allyl alcohol, allyl chloride, allyl methyl ether, allyl vinyl ether, diallyl ether, allyl phenyl ether, methyl methacrylate, and acrylic acid.